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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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PAN-JIN KIM

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STAAS & HALSEY LLP

SUITE 700

1201 NEW YORK AVENUE, N.W.

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EXAMINER

BROWN, RUEBEN M

ART UNIT

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2424

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/179,872	KIM ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	REUBEN BROWN	2424	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1, 4-6, 17, 27- 29 & 31-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 4-6, 17, 27- 29 & 31-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection. Vancelette teaches that multiple channels of video are received through a demanded major channel. However, the reference does not teach the claimed feature of displaying the channel numbers of the minor channel. Nevertheless, it would have been obvious for one of ordinary skill in the art at the time the invention was made.

Examiner points out that the feature of displaying the channel numbers of the minor channels is merely a GUI modification of Vancelette, since that reference clearly teaches that the minor channels are received through the major channel, see col. 6, lines 1-56; col. 8, lines 21-45; col. 12, lines 6-13; Fig. 3, but does not explicitly teach show the channel numbers on the TV screen of the alternate programming. The Eyer reference is now being relied upon, for this teaching, col. 9, lines 57-67 thru col. 10, lines 1-15.

Examiner is aware that in previous Office Actions, Eyer was used in a 102(e) scenario. At that time applicant's argument was that Eyer did not explicitly teach that the sub-channels were received through the major channel. Since that time and in the present Office Action, Vancelette is relied upon for that teaching, as discussed in the above paragraph. Vancelette explicitly teaches this technology.

However, Eyer is merely relied upon to teach providing the customer with a display on the TV screen that shows the actual channel numbers of the minor channels on the screen. Eyer not only teaches this feature, but clearly provides a rationale for doing so, see col. 10, lines 2-8, which states, "In this way, the **viewer is reminded** that channels are related to channel 10". Therefore, the combination of Vancelette & Eyer meets the independent claims in this application.

Finally, examiner points out that under the KSR rules adopted, a 103 rejection may be sustained if the instant rejection is found to be obvious based on at least one of the following exemplary rationales (1) Combining prior art elements according to known methods to yield predictable results (2) Simple substitution of one known element for another to obtain predictable results (3) Use of known techniques to improve similar devices (methods or products) in the same way (4) Applying a known technique to a known device (method or product) ready for improvement to yield predictable results.

Examiner asserts that the rejection below is supported at least by rationales (1) & (4). In particular, with respect to rationales (1) & (4), as pointed out above, Vancelette clearly teaches transmitting minor channels of programming within a particular RF or major channel. The practice of displaying on a TV set, the channel numbers for programs that the viewer would be interested in selecting was old in the art, it is a well established technology (i.e., known method

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or known technique). Indeed, Eyer states, that the invention is to “provide a display on the decoder or television, for instance, **which informs** the viewer that channels ABC-1, ABC-2, and ABC-3 are designated, respectively, ... **In this way, the viewer is reminded that channels,** ABC-1, ABC-2, and ABC-3 are related to channel 10, the viewer's well-known local affiliate”, emphasis added, see col. 9, lines 57-67 thru col. 10, lines 1-8. Therefore Eyer provides the known method or technique of informing a viewer of TV program on a major/minor channel that there are other channels available for the viewer's selection that are related to the instant major or primary channel. The predictable result, consistent with rationales (1) &(4), is that the viewer in Vancelette would be shown on the TV screen the actual channel numbers for selection, of the sub-channels that carry the additional camera angles/feeds for the same sporting event. The improvement upon Vancelette is that the viewer would be informed visually of his alternative choices of sub-channels for a particular major or primary channel.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 17, 27-29, 31-35, 37 & 39-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vancelette, (U.S. Pat # 5,894,320), in view of Eyer, (U.S. Pat # 5,982,411).

Considering claims 1 & 17, the amended claimed method for displaying channel information on a digital TV for receiving digital multichannel TV broadcasting, comprising

*‘changing a current channel to a demanded major channel in response to a demand to change a major channel’*, is met by the disclosure of Vancelette that teaches a customer selecting a primary channel, which is transmitted/delivered on a particular RF channel, see col. 10, lines 21-35.

As for the amended claimed feature of *‘displaying on a TV screen, as a viewing program, a program of a minor channel received through the demanded major channel’*, Vancelette teaches that the minor channel selected by the viewer is displayed on a TV screen, see col. 10, lines 10-56.

Regarding the additionally recited, *‘displaying on the TV screen, minor channel numbers associated with minor channels of programs received through the demanded major channel’*, Vancelette teaches that a plurality of minor channels may be received through a primary channels, col. 4, lines 6-15; col. 6, lines 5-50; col. 7, lines 25-67. Even though Vancelette discloses that the user is enabled to choose from a plurality of minor channels, see col. 6, lines 1-15, the reference does not explicitly discuss displaying the channel numbers of the alternate programming for the viewer.

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Nevertheless Eyer, in the same field of endeavor of providing primary and secondary channels to viewers, teaches a system that will “provide a display on the decoder or television, for instance, which informs the viewer that channels ABC-1, ABC-2, and ABC-3 are designated, respectively, ... In this way, the viewer is reminded that channels, ABC-1, ABC-2, and ABC-3 are related to channel 10, the viewer's well-known local affiliate”, see col. 9, lines 57-67 thru col. 10, lines 1-8. It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Vancelette with the feature of showing the channel numbers of the sub-channels on the screen for the known advantage of helping the subscriber to choose the correct channel, as taught by Eyer, col. 10, lines 2-8.

Thus, the combination of Vancelette, in view of Eyer reads on the claimed feature *‘displaying on a TV screen, as a viewing program, a program of a minor channel received through the demanded major channel’ ... ‘wherein the displayed minor channel numbers comprise at least one minor channel number corresponding to a program of a minor channel which is not currently being displayed on the digital TV’.*

As for the specifics of displaying the channel number on a *‘digital television screen’*, Vancelette appears to operate by converting the digital TV signal to an analog signal. However, Eyer is directed to a digital television receiver system, see col 9, lines 30-56; col. 10, lines 52-64.

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Considering claim 17, the claimed apparatus and device for displaying channel information on a digital TV, comprising elements that correspond with subject matter mentioned above in the rejection of claim 1, are likewise treated.

Considering claim 27, Vancelette & Eyer operate outside of an EPG environment. Therefore, the viewer in Vancelette changes channels outside of an EPG environment.

Considering claim 28, the claimed feature of '*automatically displaying*' is broad enough to read on displaying the video programming in Vancelette & Eyer, automatically, after the instant video programming has been selected by the user.

Considering claim 29, Vancelette teaches that the plurality of digital channels are multiplexed together and modulated on a single RF channel, col. 8, lines 21-45, which meets the claimed subject matter.

Considering claims 32 & 39, the newly added method or device for displaying channel information on a digital television comprises subject matter that corresponds with the rejection of claim 1 and is likewise treated. As for the limitation of '*selecting an RF channel corresponding to a major channel number*', the primary channel selected in Vancelette is an RF channel, see col. 8, lines 20-45. The claimed 'selecting device' of claim 39 reads on the tuner disclosed in Vancelette.



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Considering claims 33 & 40, the viewer in both Vancelette & Eyer are necessarily able to view the programming from any of the minor channels, including the programming from the lowest minor channel number. As for claim 40, it would have been obvious to display the TV program as a single program on the TV screen.

Considering claim 34, the minor channel numbers in Eyer are arranged in a prescribed order, namely ABC-1, ABC-2 & ABC-3, etc, see col. 10, lines 1-15.

Considering claims 35 & 37, the viewer in Eyer is enabled to select/receive programming from the associated minor channels by using the channel up/down commands, see col. 5, lines 21-58.

5. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vancelette, & Eyer, further in view of Etheredge, (U.S. Pat # 6,172,674).

Considering claims 4 & 6, Vancelette & Eyer do not teach hiding the major or minor channel numbers after a prescribed time has elapsed. Nevertheless, Etheredge provides a disclosure of removing a particular pop-up menu that has been activated by the user, after a certain time, if a channel selection or menu item selection has not been made, (col. 13, lines 26-50; col. 14, lines 4-40; col. 15, lines 10-25). It would have been obvious for one of ordinary

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skill in the art at the time the invention was made, to modify the combination of Vancelette & Eyer with the technology taught by Etheredge, at least for the known advantage of reducing the amount of extraneous information displayed to the viewer, since after a certain amount of time it may be assumed that the viewer is no longer interested in making a channel change from the menu displayed on the TV screen.

Considering claim 5, the claimed subject matter is still obvious over Vancelette & Eyer, since it would have been obvious to provide the viewer with a display (at least momentarily) of the all other related channels, whether or a the video program currently being shown is from a major/primary channel or from one its associated minor/sub-channel(s).

4. Claims 36 & 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vancelette & Eyer, further in view of Keenan (U.S. Pat # 5,16,023).

Considering claim 36, the instant claimed feature reads on an endless loop operation such that once the user gets to the top of a list of programs, the next program to be highlighted (selected), would be the program at the bottom of the list, and vice versa. Keenan (col. 1, lines 51-59) discloses such a technology. It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Vancelette & Eyer, with the known technology of 'wrap around' lists as taught by Keenan (Fig. 3A; col. 3, lines 40-52), at least for the desirable purpose of avoiding the user having to move the cursor in the other direction in order to reach the

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opposite extreme of the instant list, which would be burdensome on the user, at least in the case of long lists of programs.

Considering claim 38, as discussed above in the analysis of claim 36, it would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Eyer with the well known 'wrap around' technology disclosed in Keenan (Fig. 3A). However, claim 14 requires the additional step that a user is automatically connected to a succeeding or preceding list of minor channels, depending on whether the user's cursor is currently selecting the highest minor channel or lowest minor channel, respectively of the currently active minor channel list. It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify the combination of references to move to a next list of channels, at least for the desirable advantage of avoiding the user having to manually select the next list of channels.

***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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**Any response to this action should be mailed to:**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

**or faxed to:**

(571) 273-8300, (for formal communications intended for entry)

**Or:**

(571) 273-7290 (for informal or draft communications, please label  
"PROPOSED" or "DRAFT")

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reuben M. Brown whose telephone number is (571) 272-7290. The examiner can normally be reached on M-F (9:00-6:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pankaj Kumar can be reached on (571) 272-3011. The fax phone numbers for the organization where this application or proceeding is assigned is (571) 273-8300 for regular communications and After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**/Pankaj Kumar/  
Supervisory Patent Examiner, Art Unit 2424**